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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/383,115	08/25/1999	PETER H. VAN DER VEEN	21336-703	6121

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EXAMINER

AVELLINO, JOSEPH E

ART UNIT

PAPER NUMBER

2143

DATE MAILED: 02/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/383,115	VAN DER VEEN, PETER H.	
	Examiner	Art Unit	
	Joseph E. Avellino	2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 6-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 6-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 6-16 are pending in this examination.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 6, 7, and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al. (USPN 5,771,382) (hereinafter Wang) in view of Gamache et al. (USPN 5,202,991) (hereinafter Gamache).

3. Referring to claims 6 and 13-16, Wang discloses a method for responding to a thread requiring a call to a critical area by:

requesting a global lock (col. 7, lines 11-19 and steps 808 and 812 of Figure 8);

and

responding to said global lock being available by performing the steps of:

acquiring said global lock (col. 7, lines 11-19);

performing said call to said critical area of said operating system (col. 7, lines 64-66); and

releasing said global lock (col. 8, lines 23-26).

Wang does not specifically disclose that the critical area is the critical area of an operating system, however Gamache discloses that an operating system can have a critical area (col. 2, lines 12-19). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Gamache with Wang to prevent corruption of critical areas of code.

4. Referring to claim 7, Wang in view of Gamache discloses a method as described in the claims above. Wang further discloses responding to said thread requiring a call to a non-critical area by performing said call to said non-critical area of the system (Figure 6 and col. 8, lines 50-62).

Claim 8-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of Gamache as applied to claims 6 and 7 above, and further in view of Dangelo (USPN 5,946,487).

5. Referring to claim 8, Wang in view of Gamache disclose a method as described in the claims above. Wang in view of Gamache do not disclose that the operating system is a micro kernel operating system. Dangelo discloses that the operating system is a micro kernel operating system (col. 8, lines 22-24). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Dangelo with Wang and Gamache because it will provide a direct interface

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with the hardware and schedule threads based on the most appropriate hardware available. See Wang, col. 10, line 66 to col. 11, line 5 and Figure 3).

6. Referring to claim 9, Wang in view of Gamache in view of Dangelo disclose a method as described in the claims above. Wang further discloses pre-empting any non-critical threads currently executing prior to acquiring global lock (Figures 3, 6, 8 and col. 7, lines 61-67).

7. Claim 10 is rejected for similar reasons as stated above.

Claims 11 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang in view of Gamache in view of Dangelo as applied to claim 10 above, and further in view of Jones et al. (USPN 5,812,844) (hereinafter Jones).

8. Referring to claim 11, Wang in view of Gamache in view of Dangelo disclose a method as described in the claims above. Wang in view of Gamache in view of Dangelo do not disclose further comprising the step of prioritizing execution of threads in accordance with how their respective call latencies will impact real time operation. Jones discloses prioritizing execution of threads in accordance with how their respective call latencies will impact real time operation (col. 5, lines 57-67). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the

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teaching of Jones with Wang, Gamache and Dangelo further reducing scheduling overhead and increasing scheduling efficiency.

9. Referring to claim 12, Wang in view of Gamache in view of Dangelo disclose a method as described in the claims above. Wang in view of Gamache in view of Dangelo do not disclose the step of scheduling execution of said threads to be performed by predetermined time deadlines. Jones discloses scheduling execution of said threads to be performed by predetermined time deadlines (col. 7, lines 27-31). It would be obvious to a person of ordinary skill in the art at the time the invention was made to combine the teaching of Jones with Wang, Gamache and Dangelo to allow for time-specific scheduling and increase performance for modern multimedia applications as seen in Jones (col. 2, lines 50-53).

Response to Amendment

10. Applicant has successfully amended the title of the invention. The objection to the title has been withdrawn.

11. Applicant has successfully amended Figures 3, 4, 5, and 7 to conform to the requests of the Draftsperson. The objection to the drawings has been withdrawn. Submission of Formal Drawings will be necessary for this case to go to allowance.

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12. Applicant's arguments dated January 31, 2003 have been considered but are not persuasive.

13. In the remarks, Applicant argued in substance that, (1) the combination of Wang and Gamache do not disclose an operating system having both critical and non-critical areas, and (2) the teachings of Dangelo are not obvious because they serve a different purpose than the claimed invention.

14. As to point (1), the Office takes the term "critical area" as "an area or block of code in which no other process or task may manipulate data which is reserved or being modified by another task or process. Applicant has successfully noted that the operating system of Gamache does disclose critical areas, however, as stated in Gamache, that other areas or levels of code may be executed by lowering the priority level to respond to lower priority tasks which do not require calls to the critical section. Therefore there must be some part of the operating system which is executed outside of that critical region, hence Gamache does, in fact, have a non-critical area of the operating system.

15. As to point (2), Applicant is reminded of the factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

It is not necessary for the teachings to expressly disclose the claimed invention provided there is sufficient motivation for combining the references. The Office has provided such motivation in the last Office Action therefore the rejection is upheld.

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph E. Avellino whose telephone number is (703) 305-7855. The examiner can normally be reached on Monday-Friday 7:00-4:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A. Wiley can be reached on (703) 308-5221. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 746-7239 for regular communications and (703) 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

JEA
February 10, 2003



DAVID WILEY
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100